

CLAIMS

What is claimed is:

1. A roller chain comprising: alternately connected and overlapping inner and outer links, in which
each inner link comprises a pair of opposed inner plates, each inner plate having a pair of bushing holes, and a pair of bushings, each bushing being fixed in one bushing hole of one of said inner plates and in one bushing hole of the other of said inner plates;
each outer link comprises a pair of opposed outer plates, each outer plate having a pair of pin holes, and a pair of pins, each pin being fixed in one pin hole of one of said outer plates and in one pin hole of the other of said outer plates; and
the outer plates of each outer link are disposed in overlapping relation with, and on the outsides of, inner plates of adjacent inner links, and each pin of an outer link extends through, and is rotatable in, a bushing of an adjacent inner link;
and a roller rotatably disposed on each said bushing;
wherein:
the outside diameter D of said roller and the outside diameter d of said pin satisfy the relationships
$$0.72P \leq D \leq 0.79P \text{ and}$$
$$0.40P \leq d \leq 0.44P$$

where P is the pitch of the roller chain; and

the height H of the inner plates satisfies the
relationship $0.96P \leq H$.